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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/511,328
Applicant : Jan THORSOE et al
Filed : October 15, 2004
TC/A.U. : 2838
Examiner :

Docket No. : 2923-663
Customer No. : 6449
Confirmation No. : 6686

**SUBMISSION OF TRANSLATION OF INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

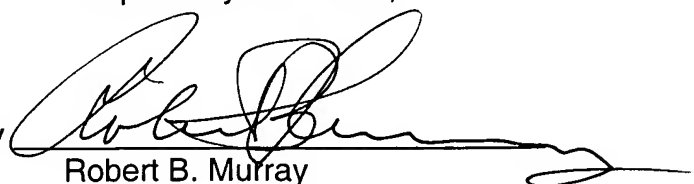
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith is a copy of the translation of the International Preliminary
Examination Report.

In the event that any fees are due with this paper, please charge our Deposit
Account No. 02-2135.

Respectfully submitted,

By 

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RBM/cb

From the INTERNATIONAL BUREAU

PCTNOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 72.2)

To:

WEICKMANN, Franz, Albert
Weickmann & Weickmann
Postfach 860 820
81635 München
ALLEMAGNE**Weickmann & Weickmann****E 1 3. DEZ. 2004****First:
Patentanwälte**

Date of mailing (<i>day/month/year</i>) 09 December 2004 (09.12.2004)	
Applicant's or agent's file reference 27337P WO	IMPORTANT NOTIFICATION
International application No. PCT/EP2003/003941	International filing date (<i>day/month/year</i>) 15 April 2003 (15.04.2003)
Applicant SANYO COMPONENT EUROPE GMBH et al	

1. Transmittal of the translation to the applicant.

The International Bureau transmits herewith a copy of the English translation made by the International Bureau of the international preliminary examination report established by the International Preliminary Examining Authority.

2. Transmittal of the copy of the translation to the elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following elected Offices requiring such translation:

AZ, CA, CH, CN, CO, GH, KG, KP, KR, MK, MZ, RU, TM

The following elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, BA, BB, BG, BR, BY, BZ, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EP, ES, FI, GB, GD, GE, GM, HR, HU, ID, IL, IN, IS, JP, KE, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MN, MW, MX, NI, NO, NZ, OA, OM, PH, PL, PT, RO, SC, SD, SE, SG, SK, SL, TJ, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report.

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Agnes Wittmann-Regis
Facsimile No.+41 22 740 14 35	Facsimile No.+41 22 338 89 70

Translation

PATENT COOPERATION TREATY

PCT/EP2003/003941



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 27337P WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/003941	International filing date (day/month/year) 15 April 2003 (15.04.2003)	Priority date (day/month/year) 16 April 2002 (16.04.2002)
International Patent Classification (IPC) or national classification and IPC H02J 7/00		
Applicant SANYO COMPONENT EUROPE GMBH		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 24 September 2003 (24.09.2003)	Date of completion of this report 12 July 2004 (12.07.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/003941

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☒ the description:
pages _____ 1-19 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the claims:
pages _____ 2-10, 12-15 _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____ 1, 11 _____, filed with the letter of _____ 21 June 2004 (21.06.2004)
- ☒ the drawings:
pages _____ 1/2-2/2 _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/EP 03/03941

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1	YES
	Claims	11	NO
Inventive step (IS)	Claims	1	YES
	Claims	11	NO
Industrial applicability (IA)	Claims	1-15	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following document:

D1: EP-A-0 880 214 (FUJITSU LTD), 25 November 1998 (1998-11-25)

1. Document D1 discloses (see in particular the abstract, figure 3 and column 7, lines 14 to 22) the features of the preamble of independent claim 1, and also the following features of the characterising part:

- each parallel branch has condition monitoring means;
- each parallel branch is provided with a switch which can be controlled according to the condition of the battery in the respective parallel branch, as monitored by the condition monitoring means.

2. In D1 the entire battery unit is switched off if the voltage in even a single battery element deviates from a set range. Taking D1 as a starting point, the problem addressed is that of preventing an entire battery pack with a plurality of parallel branches from being switched off simply because one cell assumes a condition which causes the condition monitoring means to activate the switch.

3. Claim 1 solves the problem posed by D1 by introducing an additional feature whereby each condition monitoring means controls its own switch in such a way that only the

relevant parallel branch is selectively blocked or left open for the current.

4. There is nothing in the available prior art to suggest the newly introduced feature of claim 1.
5. There are no objections relating to industrial applicability.
6. Independent claim 1 thus appears to meet the requirements of novelty, inventive step and industrial applicability (PCT Article 33(1)). Claims 2 to 10 relate to advantageous embodiments and therefore also meet the same requirements.
7. The application fails to meet the requirement of PCT Article 33(2) because the subject matter of independent claim 11 is not novel over the prior art as defined in the Regulations (PCT Rule 64.1 to 64.3).

Document D1 discloses (see in particular figure 3 and column 7, lines 6 to 14) all the features of independent claim 11.

In D1, excessive discharge is prevented by turning off switches 5 and 7 when the voltage in one of the battery cells falls below a predetermined value. Claim 11 states that the controllable switch is activated when a discharge current of a minimum current intensity passes through a diode connected in parallel with the switch. However, this feature seems too general to constitute a difference in comparison with D1 because the minimum current is not specified. The switches in D1 (see figure 3) are also activated when there is a discharge current. Obviously in D1 there is also a discharge current associated with reference voltage e1 (see D1, column 7, lines 51 to 58), and obviously this discharge current passes through the diode. In the opinion of the examiner the phrase "discharge current of a minimum current intensity" in claim 11 is merely a definition.

According to the applicant, the problem addressed by the device according to claim 11 on the basis of D1 is that of providing for cases where some parallel branches have a stronger charge than others by preventing the charging of the weakly charged branches by the more strongly charged branches, which would result in unwanted internal charging currents. However, this general problem appears to have been already solved in principle by the device known from D1.

Claim 11 does not appear to state clearly that the condition monitoring means directly measures the current in the individual diodes. In the opinion of the examiner the claim also covers indirect current measurement through the detection of voltages across the battery cells.

8. The subject matter of claim 11 fails to meet the requirement of PCT Article 33(3) because novelty is a necessary condition for inventive step.
9. The examiner has not been able to identify a common inventive concept linking the two independent claims (claims 1 and 11). In particular, claim 11 does not appear to specify the feature according to which single parallel branches (rather than the entire battery pack) are selectively activated. From the above discussion it is clear that in the opinion of the examiner this could constitute a common inventive concept that would link the two independent claims.
10. From the above discussion it is also clear that in the opinion of the examiner independent claim 11 (and its dependent claims) would meet the requirements of novelty, inventive step and industrial applicability (PCT Article 33(1)) if the feature "in such a way that only this particular parallel branch is selectively blocked or left open for the flow of charge" were added to the end of the claim.

Additional observations

In order to meet the requirements of PCT Rule 5.1(a)(ii), the description should have cited D1 and briefly outlined the relevant prior art disclosed therein.

Claim 1 has been drafted in the two-part form. However, all the features which are known from D1 should be specified in the preamble (PCT Rule 63(b)).

When submitting the amended claims the applicant should have also modified the description to bring it in line with the amended claims. This could have included replacing the definition of the invention (page 4, first paragraph, to page 10, second paragraph) with the following brief statement: "The invention is defined by the features of claim 1. Preferred embodiments are defined in the claims." Alternatively the text of the claims could have been repeated in the description as a definition of the invention. The use of different definitions of the invention in the claims and description should be avoided so that problems of clarity do not arise when the claims are read in conjunction with the description (PCT Article 6).